In re: Kim et al.

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In the Claims:

1. (Original) A semiconductor device comprising:

a semiconductor substrate having a recess therein;

a gate insulator on the substrate in the recess;

a gate electrode comprising a first portion on the gate insulator in the recess and a second reduced-width portion extending from the first portion; and

a source/drain region in the substrate adjacent the recess.

2. (Original) The semiconductor device of claim 1, wherein the gate insulator

comprises:

a first portion disposed on a sidewall of the recess and having a first thickness; and

a second portion disposed on a bottom of the recess and having a second thickness

less than the first thickness.

3. (Original) The semiconductor device of claim 2, wherein the first portion of

the gate insulator adjoins a source/drain region in the substrate.

4. (Original) The semiconductor device of claim 2, further comprising a nitride

liner disposed between the first portion of the gate insulator and the recessed portion of the

gate electrode.

5. (Original) The semiconductor device of Claim 2, further comprising:

an insulation layer on a surface of the substrate adjoining the second portion of the

gate electrode above the substrate and extending over a portion of the first portion of the gate

electrode; and

an insulating spacer disposed on a sidewall of the second portion of the gate electrode

and on the insulation layer.

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6. (Original) The semiconductor device of Claim 5, wherein the insulation layer comprises silicon oxide and the insulating spacer comprises silicon nitride.

- 7. (Original) The semiconductor device of Claim 5, wherein the insulating spacer comprises a first insulating spacer and further comprising a second insulating spacer on sidewalls of the insulation layer and the first insulating spacer.
- 8. (Original) The semiconductor device of Claim 7, wherein the source/drain region comprises a lighter-doped portion adjoining the recess.
- 9. (Original) The semiconductor device of Claim 1, wherein the gate electrode further comprises a third portion on the second portion, the third portion having an greater width than the second portion.
- 10. (Original) The semiconductor device of Claim 9, further comprising: an insulation layer on a surface of the substrate adjoining the second portion of the gate electrode above the substrate and extending over a portion of the first portion of the gate electrode; and

an insulating spacer disposed on a sidewall of the second portion of the gate electrode, on a sidewall of the third portion of the gate electrode and on the insulation layer.

- 11. (Original) The semiconductor device of Claim 10, wherein the insulation layer comprises silicon oxide and the insulating spacer comprises silicon nitride.
- 12. (Original) The semiconductor device of Claim 9, wherein the gate insulator comprises:
- a first portion disposed on a sidewall of the recess and having a first thickness; and a second portion disposed on a bottom of the recess and having a second thickness less than the first thickness.

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13. (Original) The semiconductor device of Claim 12, wherein the source/drain region comprises a lighter-doped portion adjoining the first portion of the gate insulator.

- 14. (Original) The semiconductor device of Claim 9, wherein the gate insulator comprises a substantially uniform thickness insulation layer lining the recess.
- 15. (Original) The semiconductor device of Claim 1, wherein the source/drain region comprises a lighter-doped portion nearer the recess.
- 16. (Original) The semiconductor device of Claim 1, wherein the recess has a curved shape.
- 17. (Original) The semiconductor device of Claim 16, wherein the recess is hemispherical or elliptical.

18.-39. (Cancelled).